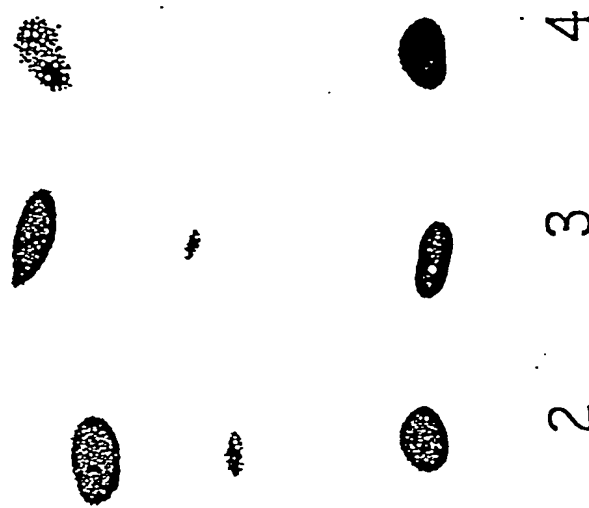


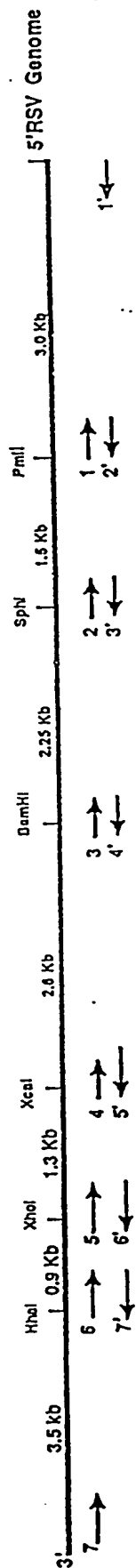
FIG. 1



Acetylated Forms of
[¹⁴C] Chloramphenicol

Unmodified
[¹⁴C] Chloramphenicol

FIG. 2

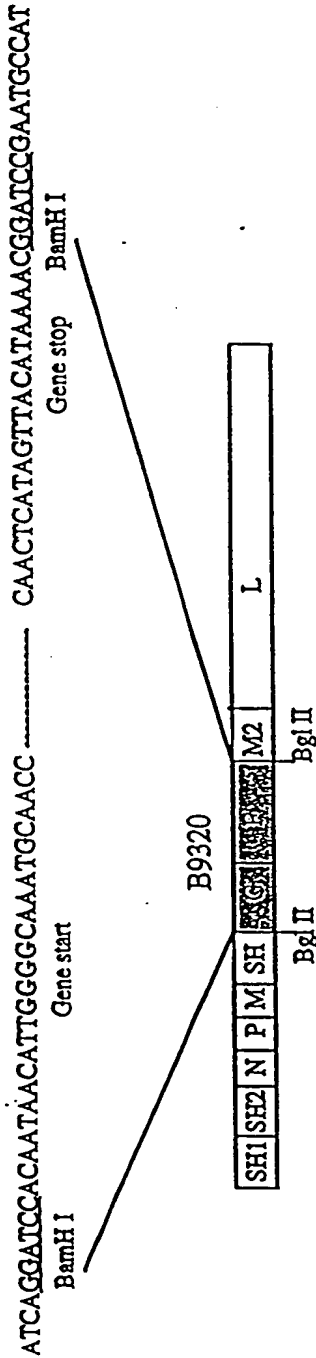


Primer Sequences:

- 1: 5' GTTTAACACGTTGGTGAG
 2: 5' ACATATAGGCATGCACC
 3: 5' GACAAAATGGATCCCAT
 4: 5' TGGTTGGTATACCAAGTCA
 5: 5' TACCAAGAGCTCGAGTCA
 6: 5' TTTACCATATGGGCTAATGT
 7: 5' ACGCGAAAAATGCGTACA
 1': 5' ACGAGAAAAAAGTGTCAC
 2': 5' CTCACCAACGTGTTAAAC
 3': 5' GGTGCATGCCATATATGT
 4': 5' AATGGGATCCATTTTGTC
 5': 5' AACACTGGTATACCAACCA
 6': 5' TGAATCGAGCTCTTGGTA
 7': 5' ACATTAGGCATATGGTAAA

FIG. 3

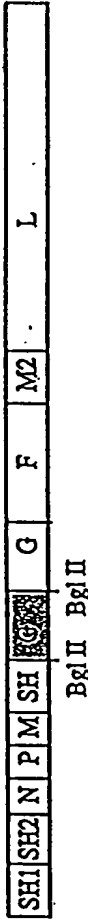
A. RSVB-GF



B. RSVB9320G-F/M2



C. RSVB9320G-SH/G



FIGS. 4A-C

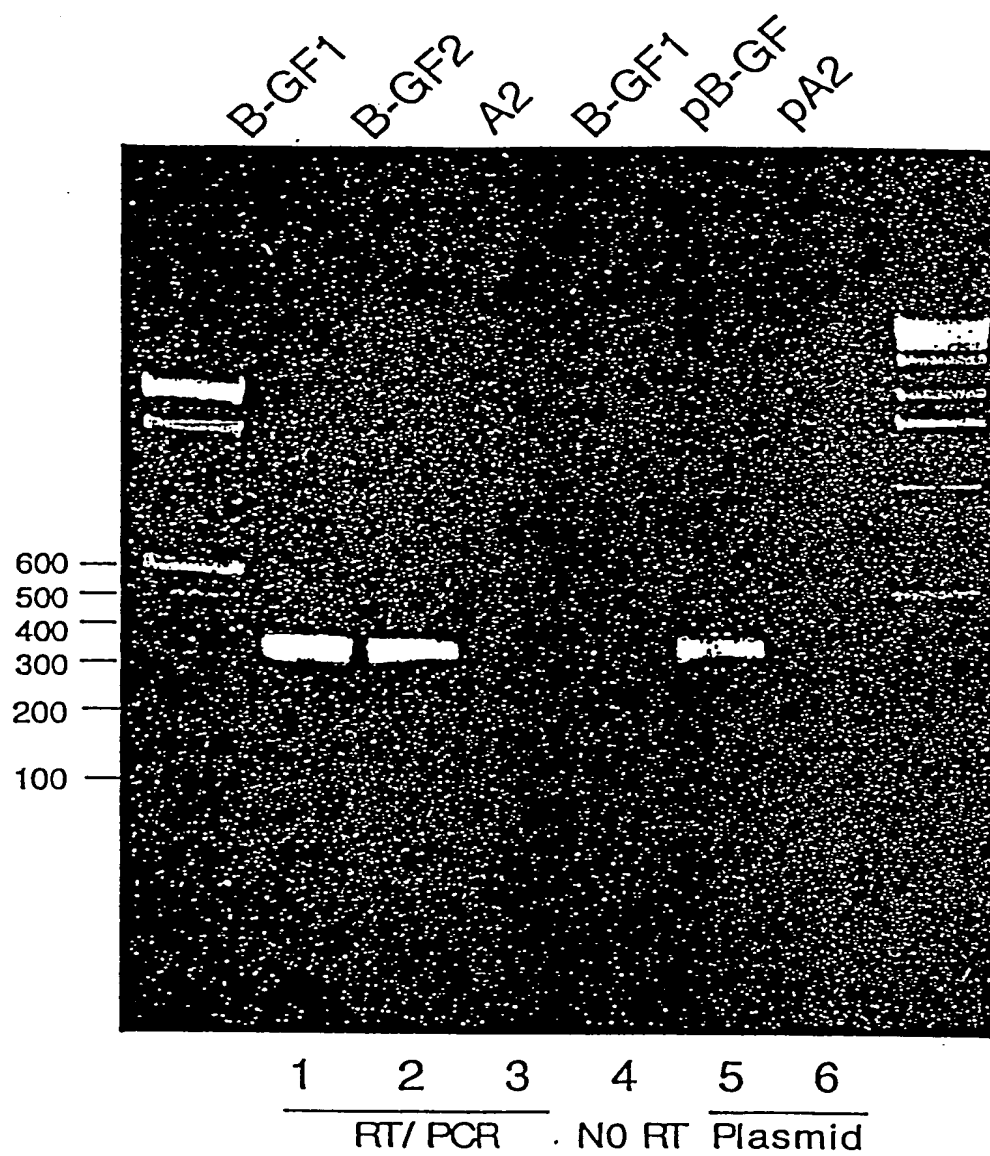
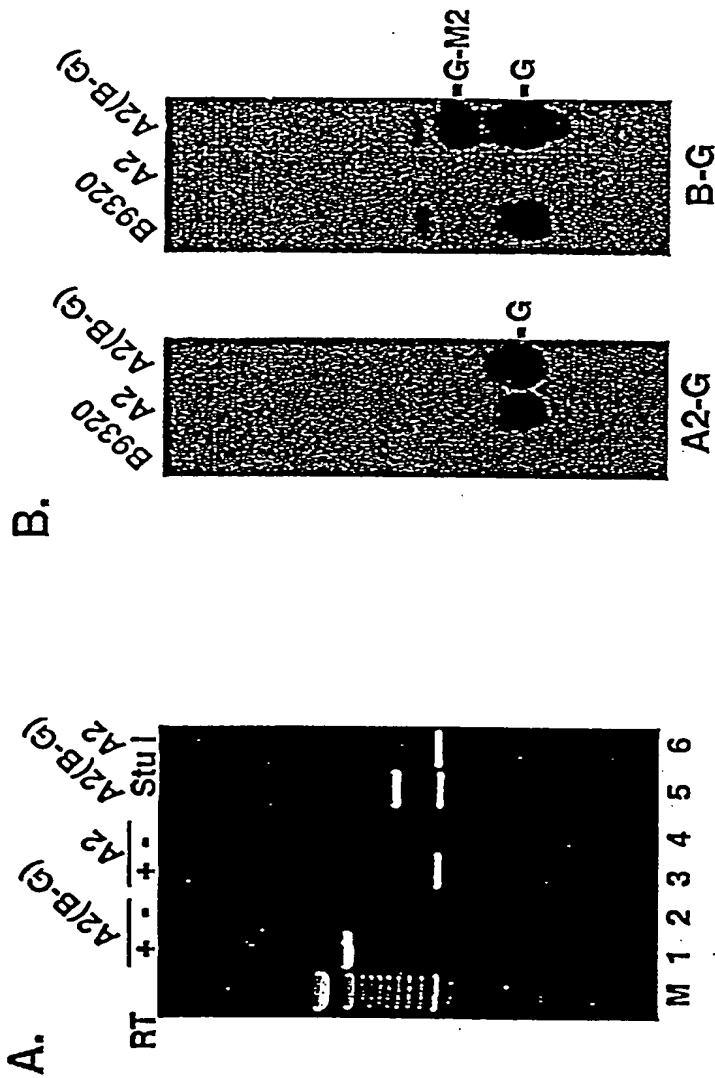


FIG. 5



FIGS. 6A-B

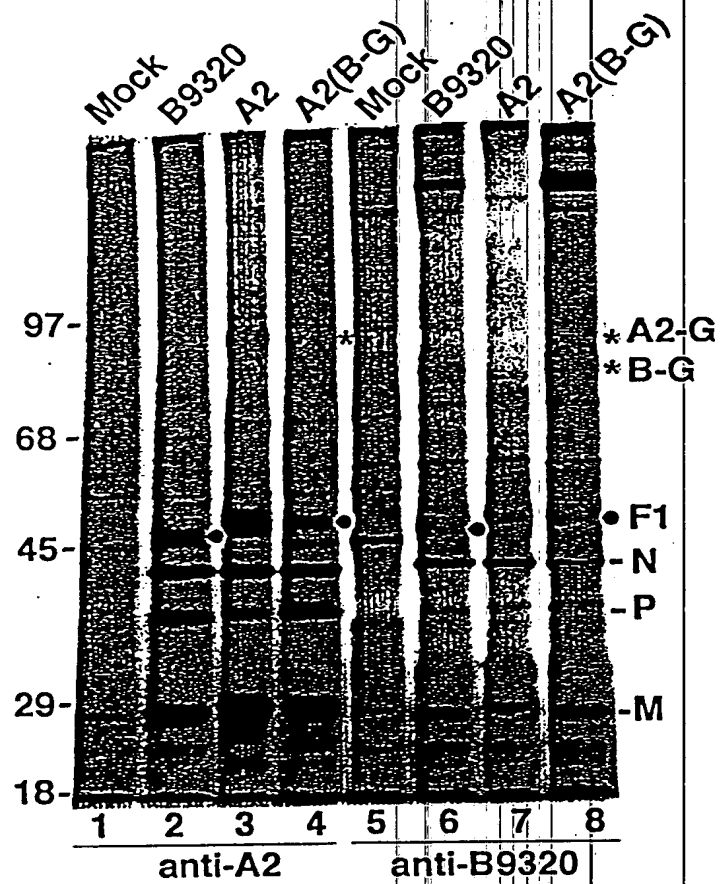


FIG. 7

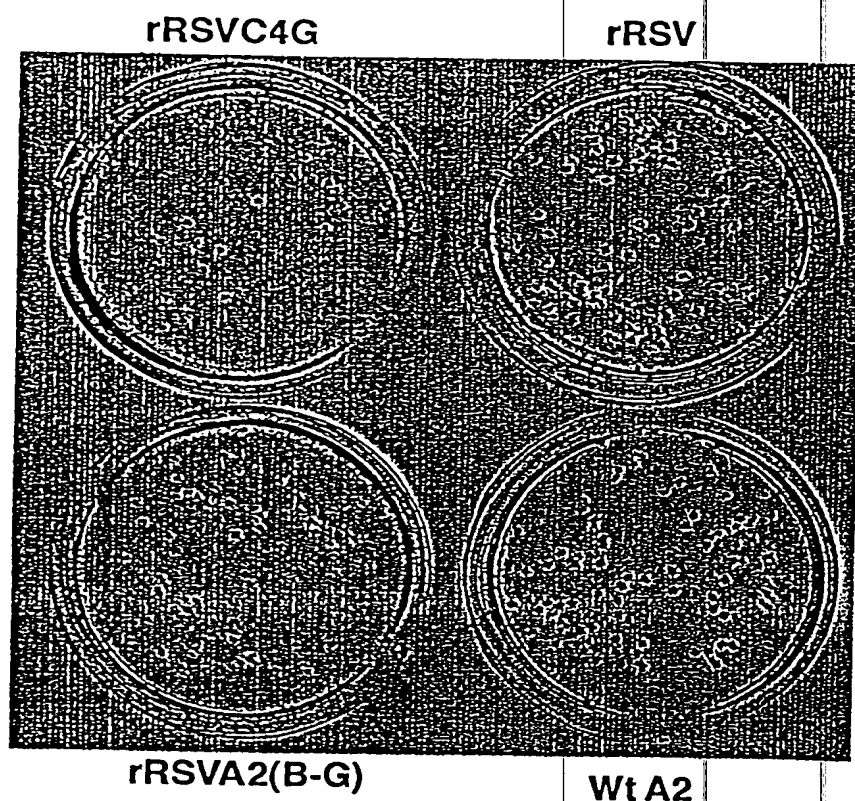


FIG. 8

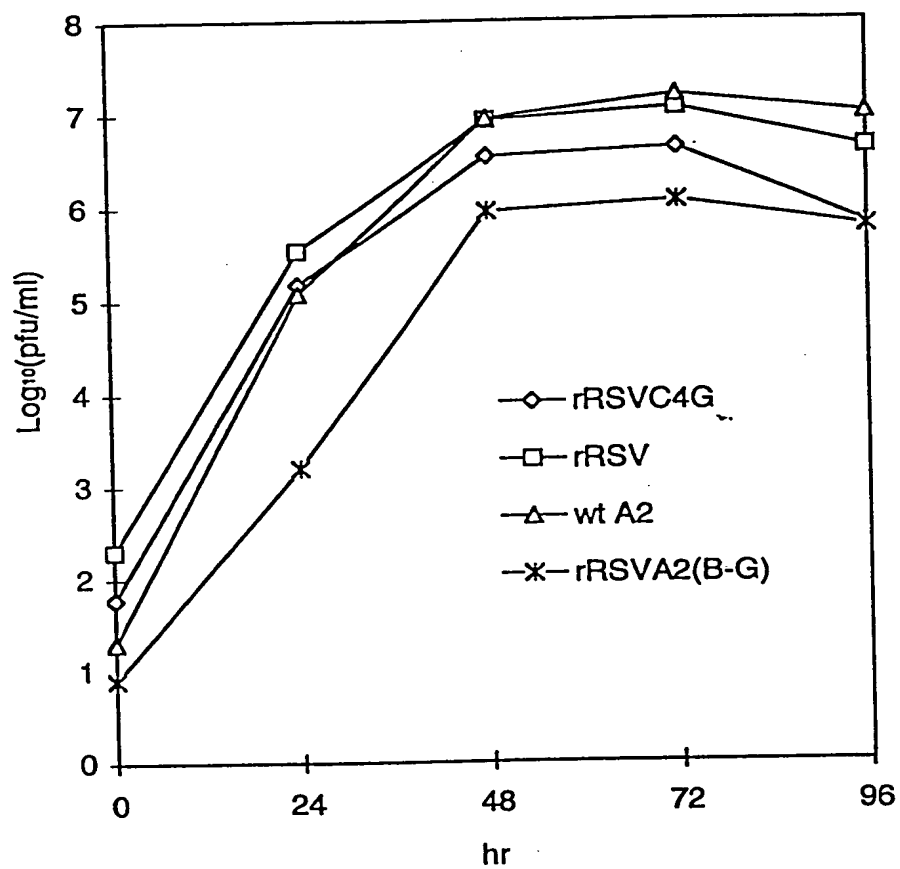


FIG. 9

MDPIINGNSANVILT DSYLKGVISFSECNA LGSYIFNGPYLKNDY TNLISRQNPLIEHMN LKKLNITQSLISKYH 75
 KGEIKLEETPYFQSL LMTYKSMTSSEQIAT TNLKKIIRRAIEIS DVKVYAILNKLGLKE KDKIKSNNGQDEEDNS 150
 VITTIKKDDILSAVK DNQSHLKADKNHSTK QKDTIKTTLKKLMC SMQPPSWLIHWFNL YTKLNNILTOYRSNE 225
 VKNHGFTLIDNQTLG GQFQILNQYGCIVYH KELKRITVTYVYNQFL TWKDISLSRLNVCLL TWISNCLNTLNKSLG 300
 LRCGFNNVILTQLFL YGDCILKLFHNEGFI IIEKEVEGFIMSLIIN ITEEDQFRKRFRFYNM LNNITDAANKAQKNL 375
 LSRVCHTLDDKTVDSD NIINGRWIILLKFL KLKLAGDNINLNL ELVFLFRIFGHPMV EBOAMDVAKINCNET 450
 KFYLLSSLSMLRGAF IYRIIKGFVNINRW PTLRNAIVLPLRWLT YYKLNTPSLLLELTF RDLIVLSGLRFYREF 525
 RLPKKVDLEMIINDK AISPPKNLIWTSFPR NMPSHIQNYIEHEK LKFSSEDKSRVRLEY YLRDNKFNECDLYNC 600
 VVNOQSYLNNPNHVS LTGKEBELSVGRMFA MQPGMFRQVQILAEK MIAENILOFFPESLT RYGDLELQKILELKA 675
 GISNKSNNRYNDNNN YISKCSITIDLSKFN QAFRYETSCICSDVL DELHGVQSLFSLHL TIPHVTIICTYRHAP 750
 PYIGDHIVDLNNVDE QSGLYRYHMGIEGW CQKLWTEAISLLDL ISLKGKFSITALLNG DNQSIDISKPIRLME 825
 GQTHAQADYLLALNS LKLLYKEYAGIGHKL KGTETYISRDMQFMS KTIQHNQVYYPASIK KVLRVGPWINTILDD 900
 FKVSLESIGSLTQEL EYRGESLLCSLIFRN VMLYNQIALQKNAHA LCNNKLYLDILKVLK HLKTFNLDNDIDTAL 975
 TLYMNLPLFGGDP NLLYRSFYRRTPDFL TEAIVHSVFILSYTT NHDLDKQLQDLSDDR LNKFLTCLITFDKNP 1050
 NAEFVTLMRDPQALG SERQAKITSEINRLA VTEVLSTAPNKIFSK SAQHYTTTEIDLNDI MQNIEPTYPHGLRV 1125
 YESLPFYKAEKIVNL ISGKSTINILEKTS AIDLTIDIDRATEMMR KNITILLIRILPLDCN RPKREILSMENLSIT 1200
 ELSKVYVREBSWSLSN IVGVTSPSIMYTMDI KYTSTISSGIIIEK YVNSLTRGERGPTK PWVGSSTQEKKIMPV 1275
 YNRQVLTKKQDQID LLAKLDWVYASIDNK DEFMEELSIGTLGLT YEKAKKLPQYLSVN YLHRLTVSSRPCEFP 1350
 ASIPAYRTTNVHFDI SPINRILTEKYGDED IDIVFQNCISFGLSL MSVVEQFTNVCPNRI ILIPKLINEIHLMKPP 1425
 IFTGDVDIHLKQVI QKQHMFLPKISLTQ YVELFSLNKTILKSGS HVNSNLILAHKISDY FHNTYILSTNLAGHW 1500
 ILTIQIMKDSKGIFE KDWGEGYITDAMFIN LKVFENAYKTYLLCF HKGYGKAKLECDMNT SDLLCVLELIDSSYW 1575
 KSMKVFLEQKVICY ILSQDASLHRVKGCH SFKLWFLKRLNVAEF TVCPWVVVNIDYHPTH MKAILTYIDLVRMGL 1650
 INIDRIHIKNKHKEN DEFYTSNLFYINYNF SDNTHLLTKHIRIAN SELENNYNKLYHPTP ETLENILANPIKSND 1725
 KKTLDNDYCIGKNVDS IMLPLLSNKKLIKSS AMIRTNYSKQDLYNL FPMVVIDRIIDHSGN TAKSNQLYTTTSHQI 1800
 SLVHNSTSLYCMPLW HHINRFNFVSSSTGC KISIEYILKDLKIKD PNCIAFIGEGAGNLL LRTVVELHPDIRYIY 1875
 RSLKDCNDHSLPIEF LRLYNGHINIDYGEN LTIPATDATNNIHS YLHIKFAEPISLFVC DAELSVTVNWSKIIIT 1950
 EWSKHVRKCKYCCSV NKCMILVYKHAQDDI DFKLDNITILKTYVC LGSKLKGSEVYLVLT IGPANIFFPVFNVQN 2025
 AKLILSRITKFIIMPX KADKESIDANIKSLI PFCLCYPITKKGINTA LSKLSVSVSGDILSY SIAGRNEVFSNKLIN 2100
 HKHMNILKWFNHVILN FRSTELNYNHLYMVE STYPYLSSELINSLTT NELKKLIKITGSLLY NFHNE 2165

Charged Clusters (Amino Acids that are underlined were changed to alanines)

Mutations in cpts-248/404

Mutation in cpts530

FIG. 10

| | | | | | | | | | |
|------------------|-----------------|-----------------|-----------------|----------|------------|-------------|------------------|-----------------|------|
| MDPIINGNSANVYLT | DSYLGVI | FS | ECNA | LGSYIENG | PYLKNDY | TNLSRQN | PLIEHMN | LKKNITQSLISKYH | 75 |
| KGEIKLEETPYQSL | LMTYKSM | T | SE | QIAT | TNLLKII | IRRAIEIS | DVKVYAILNKLGLKE | KDKIKSNNGODEDNS | 150 |
| VITTIKDDILSAVK | DNQSHLKADKNHSTK | GFQFILNQYGCIVYH | YGDCILKLFHNEG | FY | IIKEVEGF | FIMSLIIN | KLKLAGD | NNLNLS | 225 |
| VKNHGFTLIDNQTL | YGD | CILKLFHNEG | FY | IIKEVEGF | FIMSLIIN | KLKLAGD | NNLNLS | KLKLAGD | 300 |
| LRCGFNNVILLTQLFL | YD | CILKLFHNEG | FY | IIKEVEGF | FIMSLIIN | KLKLAGD | NNLNLS | KLKLAGD | 375 |
| LSRVCHTLDDKTVD | NI | INGRWIILL | SKFL | KL | IKLAGD | NNLNLS | KLKLAGD | NNLNLS | 450 |
| KFYLLSSLSMLRGAF | IYRI | ITKGFVNNYNRW | | PTLR | NAIVL | PLRWLT | YKLNTP | PSLLELTE | 525 |
| RLPKKVDLEMIINDK | ATSP | PKNL | IWTSP | PR | NYP | SHIQNYIEHEK | LKFS | ESDKSRRVLEY | 600 |
| VVNQSYLNNPNHVS | LTGKER | ELSVGRMFA | | MQPG | MRQVQ | ILAEK | MIAENIL | QFFPEST | 675 |
| GISNKSNNRYNDNVN | YISK | CSII | TDLSKFN | QAFRY | ETSCICSDVL | | DELHGVQSLFSWLHL | TIPHVTI | 750 |
| PYIGDHIVDLNNVDE | QSGLYR | YHMG | GIEGW | CQKL | WTIEA | ISLLDL | ISLKGKFSIT | ALING | 825 |
| GQTHAQADYLLALNS | LKLLYKE | YAGIGHKL | | KG | TET | YISRDMQFMS | KTIQHNGVYYPASIK | KVLRVGPWINTILDD | 900 |
| FKVSLESIGSLTQEL | EYRGES | LLCS | LIFRN | VWLY | NQALQ | LKNHA | LCNNKLYLDILKVLK | HLKTFFFNL | 975 |
| TYMNLPMLEGGDP | NLLYRS | FYRRT | PPDFL | TEAIV | HSVFIL | SYT | NHDLKDKLQDLSDDR | LNKFLT | 1050 |
| NAEFVTLMRDPQALG | SERQAK | ITSEINRLA | | VTEVL | STAPN | KIFSK | SAQHYTTTEIDINDI | MQNI | 1125 |
| YESLPFYKAEKIVNL | ISGTS | ITNILEKTS | | AIDLT | DIDR | ATEMMR | KNITLLIRILPLDQN | RDKREIL | 1200 |
| ELSKYVRERSWSLSN | IVGVT | SPSIMYTMDI | | KYTT | STISS | GIIEK | YNVNSLTRGERGPTK | PWVGSSTQ | 1275 |
| YNRQVLTKKQORDID | LLAKLD | WVYASIDNK | | DEFE | EELS | SIGTLGLT | YEKAKKLFPPQYLSVN | YLHRLTVSSR | 1350 |
| ASIPAYRTTNYHFD | SPINRIL | TEKYGDED | | IDIV | QNCIS | FGLSL | MSVVEQFTNVCPNRI | ILIPKLINEI | 1425 |
| IFTGDVDIHKLKQVI | QKQHM | FLPKISLTQ | | YVEL | FLSNK | TLKSGS | HVNSNLILAHKISDY | FHNTYIL | 1500 |
| ILIIQLMKDSKGIFE | KDWGEG | YITD | HMFN | LKVF | FNAYK | TYLLCF | HKGYGKAKLECDMNT | SDLLCVLE | 1575 |
| KSMKVFLEQKVIKY | ILSQDAS | LHRVKGCH | | SFKL | WFLK | RINVAEF | TVCPWVNNIDYHPTH | MKAILTYID | 1650 |
| INIDRTHIKNKHFN | DEFYTS | NLFYINVF | | SDNTH | LLTKH | IRIAN | SELENNYNKLYHPTP | ETLENILAN | 1725 |
| KKTLNDYCIGKNVDS | IMLPL | LSNKKLIKSS | | AMIR | TNYSK | QDLYNL | FPMVVIDRIIDHSGN | TAKSNQ | 1800 |
| SLVHNSTSLYCMPLW | HHINR | FN | VFSSTGC | KISIE | YILK | DLKIKD | PNCIAFIGEGAGNLL | LRTVVELH | 1875 |
| RSKDCNDHSLPIEF | LRLYNG | HINIDYGEN | | LTIP | ATD | ATNNIHS | YLHIKFAEPI | SLFVC | 1950 |
| EWKSHVRKCKYC | SSV | NKCM | LIVKYHAQDDI | DFKLD | NITIL | KTYVC | LGSKLKGSEVYLVT | IGPANIF | 2025 |
| AKLILSR | TQNFIMP | K | KADKESIDANIKSLI | PFLC | YPIT | TKGINTA | LSKLKS | VVSGDILSY | 2100 |
| HKHMNLIKWFNHVLN | FRSTEL | NYNHLYMVE | | STYP | YLSEL | NSLTT | NELKLIKITGSLLY | NFNE | 2165 |

C Cysteine residues

C Cysteine residues that were changed to valine or aspartic acid

C Cysteine residue deleted

FIG. 11

